Prediction and Personality-related Outcomes

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Abstract

Prediction of important life outcomes from personality attributes is an important endeavor for a variety of reasons, not least of which is developing causal explanations for those outcomes. A “homogeneity of effects” criterion for attributing causation to a broad superordinate trait is unnecessarily stringent, and current knowledge of personality structure is not yet sufficient to fruitfully implement the proposal.

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There are many ways in which personality trait-outcome research might be made more rigorous (e.g., better measures, more longitudinal designs, larger and more heterogeneous samples), but in his target article Mõttus (this issue) focuses on meta-theoretical concerns. He suggests that concurrent or predictive relations between traits and outcomes are largely of interest only if they can be understood as causal. He then argues that if the causal source of the associated outcome is to be understood as a unitary trait, then facets (and items) should be equally related to that outcome, with the allowance that this relation may vary to the extent that the facets (or items) are differentially saturated with the putative causal trait—a condition one might describe as "homogeneity among effects." I will argue that prediction consistent with a causal model is the present reasonable limit for explaining trait-outcome relations; and however much the homogeneity of effects criterion might serve the development of a causal argument, it is not necessary and is presently beyond routine research practice.

Prediction is not only some substitute for casual explanation. For empirical forecasting, a correlate of the true causal variable may be useful (e.g., a residential postal code may be practically useful when setting car insurance rates). In many instances that would concern personality psychologists, the casual pathway between a set of personality traits and

distal outcomes may be so tortuous (Meehl's 1978 account of "context-dependent "stochastologicals" come to mind) as to undermine any general causal account. In such a circumstance, playing at causal explanation is self-deception: All we can do is predict.

But suppose we do think that some trait-outcome relationship is relatively straightforward, and we set out to employ the logic Mõttus describes. Which facets are to be employed? While we have general agreement about the broad factor structure of personality traits (but are there five or six?), there is no consensus on facets; indeed no clear reason to prefer a facet substructure, as opposed to say, a circumplex-like model. Understanding a trait as the cause of an outcome should immediately engage theorizing about mediating processes and the testing of more demanding models. In the development of a causal argument to explain a trait-outcome association, I will grant that homogeneity among facet effects provides support for attributing the cause to the broader trait; and the absence of such homogeneity may lead to causal attribution to a facet. But while Mõttus' discussion of the implications of homogeneity of effects for causal arguments makes a persuasive case in principle, we know far too little about the relations of facets to traits (or items to facets) to believe that considerations other than differential factor saturation can be set aside. There are likely causal relations among facets; and even if two facets have identical relations to a primary factor, they may be differentially related to other factors which are themselves related (differentially) to the outcome of

interest. If item-facet and facet-trait relations are truly described by simple structure effect indicator models, then Mõttus' homogeneity of effects condition does strengthen causal claims for the broad trait, but given the absence of empirically grounded agreement about the facet structure of any broad personality trait, and the lack of real discussion about what would count as appropriate boundaries for any facet item pool, it seems premature to claim that simple structure effect indicator models can be presumed as the foundational personality structure and that we are ready to undertake the path envisioned in the target article.

There are some difficult but surely not insurmountable methodological problems that would arise even if a simple structure effects indicator structure of a broad trait was clearly sufficient: How would tests for facet effect homogeneity be undertaken? Simple differences between correlations are notorious lacking in power. If regression models and incremental validity methods are applied, measurement error issues becomes especially problematic; and if testing models where correlated latent facets with coefficients fixed equal are estimated as predictors of an outcome, sufficient power will guarantee that homogeneity of effects will be rejected. If across multiple sufficiently powered studies one facet carries the entire predictive burden, then attributing causality to that facet rather than the larger trait seems appropriate, but this is a far different standard than the argument for homogenous effects I understand Mõttus to be making.

Despite my misgivings, above, I nevertheless agree with the target article in recognizing that if facets differentially predict outcomes, it is problematic to act as if they don't by attributing the relationship to the global trait. But I take from this insight a different lesson: It is terribly important to engage with the question of the substructure of personality factors, to understand constituent elements, some of which may be partial causal functions of the unitary existential trait, and also partial functions of other facets within that and other domains. That is, there may be causal relations among facets, as posited in some network models. Without an elucidation of this structure, addressing questions about the causal relations of traits to distal outcomes seems premature. Presently, prediction must suffice.

References

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Mõttus, R. (this issue). Towards more rigorous personality trait outcome research. *European Journal of Personality.*